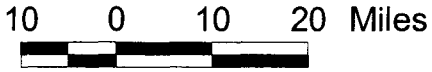
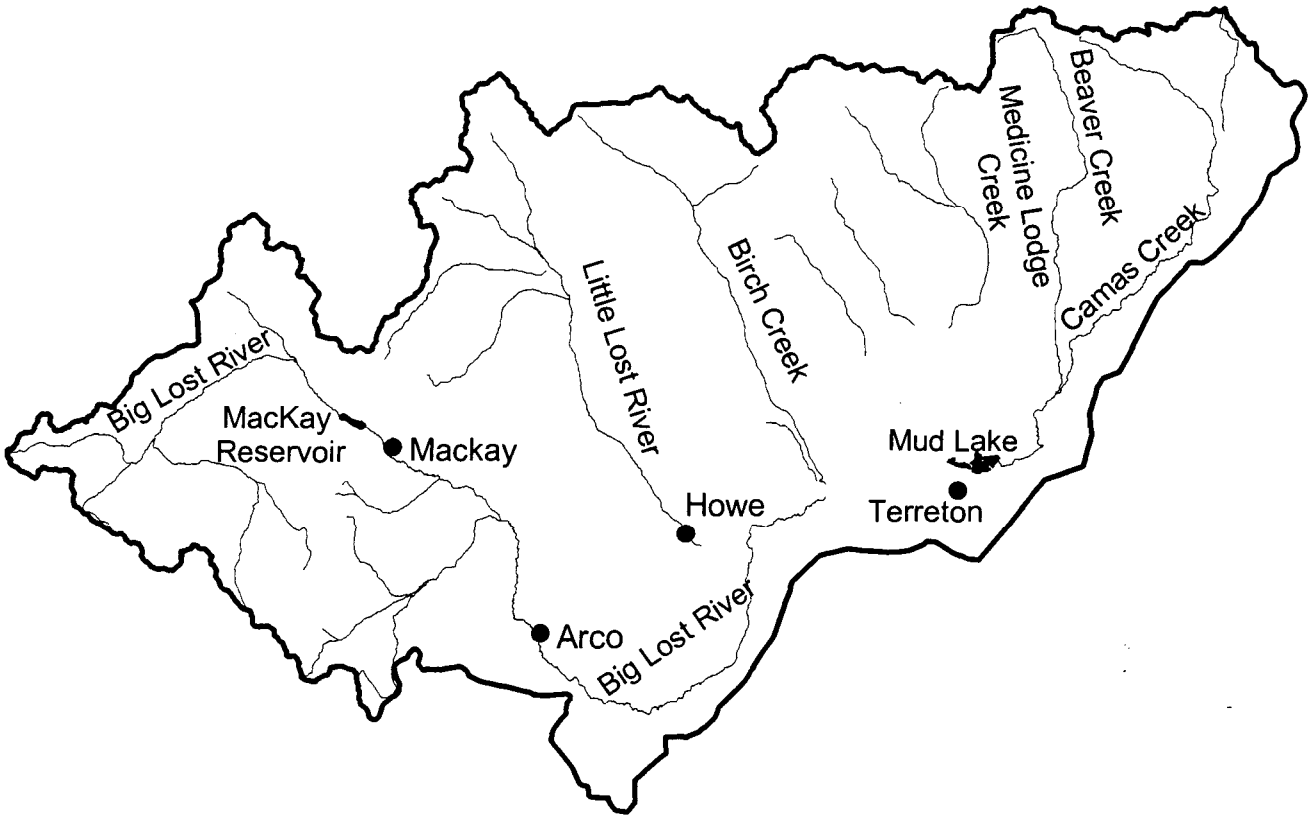
Sinks Drainages





32. SINKS DRAINAGES

A. Overview

The Sinks drainages include the Big Lost and Little Lost rivers, Birch, Camas, Beaver and Medicine Lodge creeks drainages, all of which sink into the upper Snake River Plain aquifer. Rainbow trout, of generally small size, are the predominant fish throughout the drainages, except for some headwaters and a few minor tributaries where brook trout are dominant. Native bull trout and cutthroat trout are maintaining fishable populations in some limited areas. Whitefish are found only in the Big Lost drainage. Stream quality and fish populations vary from excellent to poor where streams alternately intersect and perch above the groundwater table or enter irrigation ditches. Streams become marginal where they flow into the Snake River Plain due to diversion and freeze out. Where groundwater inflow is lacking, wintertime air temperatures often cause streams to become icebound and leave their channels. Severe habitat degradation has occurred to most streams due to past and/or present grazing practices on private and public range land. Natural flood events have also severely impacted some drainages, such as Wildhorse Creek in the Big Lost River drainage.

Irrigation diversions often dewater the lower segment of most drainages. Productivity is generally high due to large amounts of groundwater input. Stream improvement structures, to restore losses of riparian habitat due to grazing, on lower Birch Creek and Summit Creek (Little Lost River drainage) have provided 100% to 400% increases in trout populations.

Drought conditions since 1987 have impacted many of the smaller headwater tributaries in the Sinks drainages. With a return to normal snowpack years the Department will consider supplemental hatchery releases on a case-by-case basis where fish populations have been impacted. This may include those drainages managed for wild trout.

1. Big Lost River

The Big Lost River is the largest of the Sinks drainages. Included in the drainage is Mackay Reservoir. Major tributaries include Antelope, Summit, and Wildhorse creeks and the East, West, and North forks of the Big Lost River.

Mackay Reservoir, built in 1916, is an irrigation supply reservoir having a maximum capacity of 44,500 acre-feet and a minimum pool of 125 acre-feet. Pool levels below 4,600 acre-feet occur about every three years, causing flushing of most trout and kokanee through the outlet structure of the dam into the Big Lost River. This results in a poor fishery the following year in the reservoir and makes it impossible to manage Mackay Reservoir for a wild trout fishery. Hatchery rainbow trout comprise the majority of fish caught with some brook trout and wild rainbow trout present. Kokanee have recently become a significant component of the reservoir fishery, particularly in the winter. The kokanee population is naturally sustained without hatchery supplementation.

The 60 miles of Big Lost River below Mackay Reservoir has been extensively modified by numerous irrigation diversions and channelization for flood control, which has destroyed about 25% of the channel. Drought conditions have affected the Sinks drainages from 1987 through 1990. During that period, water storage and natural stream flows did not meet irrigation demand, which resulted in extensive development of wells in the area from Mackay to the Idaho National Engineering and Environmental Laboratory boundary. Well development combined with lower natural flows has reduced or eliminated most salmonid populations downstream from the Moore Diversion. In years of normal or above-normal precipitation, restoration of a fishery is possible below the Moore Diversion.

From Moore Diversion to Mackay Reservoir, the Big Lost River supports wild rainbow trout, brook trout and whitefish populations. Fish from Mackay Reservoir produce an excellent fishery immediately downstream of Mackay Dam and may provide a significant amount of recruitment supporting the river fishery below the dam. The fishery in this section of river has grown in popularity. Angler attitudes and preferences are changing at the same time. Concerns about the health of the fishery and adequacy of the current management program are increasingly expressed. The Department will focus efforts during the next five years on creel and angler surveys below Mackay Dam. The Department will also evaluate the contribution of hatchery trout from Mackay Reservoir, to the Big Lost fishery downstream. Public involvement will be emphasized as evaluation is done on the health of the fishery, and development of recommendations will be done for the optimal fishery management program to meet public angling desires..

The Big Lost River from Mackay Reservoir upstream to Chilly Bridge is annually de-watered for irrigation and has suffered from long-term stream alteration activity. From Chilly Bridge upstream, the river and tributaries support wild rainbow trout, brook trout and whitefish populations. From Bartlett Point Road upstream to the West Fork-East Fork Confluence, the main-stem and East Fork of the Big Lost River had been under restricted harvest for rainbow trout since 1988. This section of the Big Lost River was managed under a quality trout regulation of two trout over 14 inches, until 2000. Due to limitations imposed by whirling disease, this reach is now managed under general regulations. Lost River tributaries, with the exception of Wildhorse Creek, are productive for small brook and rainbow trout. Supplemental stocking of catchable rainbow trout will continue in Wildhorse Creek and other high use sections of the North, East and West Forks of the Big Lost River. Wild trout numbers and catch rates in Antelope Creek and the upper Big Lost River drainage have plummeted since 1988. Recent research has confirmed that the Big Lost River drainage above the North Fork and the Antelope Creek drainage is heavily infested with the parasite *Myxobolus cerebralis*, the causative agent for whirling disease. Management options to provide a sustainable wild trout fishery in these waters are being evaluated. One option, stocking Snake River Yellowstone cutthroat trout, which appear to survive in the wild at higher rates than rainbow trout or brook trout, was implemented in 2000. Stocking of cutthroat trout will continue with monitoring and evaluation to determine the success and utility of this strategy.

2. Little Lost River

The Little Lost River drainage contains primarily wild rainbow trout, although brook trout are abundant in headwater areas. Healthy populations of native bull trout are present in Sawmill Creek and the upper Little Lost River. Catch rates have averaged 1.2 to 1.3 trout/hour in recent years. The Little Lost River has been managed on wild trout production since 1983, and under wild trout regulations (two trout possession limit) since 1993. Bull trout harvest has been closed (concurrent with the state-wide bull trout harvest closure) to protect this important population.

3. Birch Creek

Birch Creek provides a high catch rate supported by hatchery supplementation and a strong wild rainbow trout population. Birch Creek is a popular destination fishery for consumption oriented anglers. In 1987, catch rates averaged 1.5 fish/hour. Birch Creek is primarily a hatchery catchable fishery although a creel census during 1982 indicated a 46% wild rainbow trout contribution.

4. Medicine Lodge Creek

Estimated effort for Medicine Lodge Creek was 3,700 hours with a catch rate of 1.1 fish/hour in 1987. Estimated effort for the Medicine Lodge drainage was 5,300 hours with a catch rate of 1.1 trout/hour during 1982. Effort and catch rates were lower than those observed during 1963 (11,000 hours fished with 1.4 fish/hour). Rainbow trout comprised 94% of the fish harvest during 1982. Electrofishing surveys of the Medicine Lodge drainage have found good populations of cutthroat trout and brook trout present in several tributaries, although wild rainbow trout are the dominant species. Native Yellowstone cutthroat trout are also found in several Medicine Lodge Creek tributaries. The Medicine Lodge drainage has been managed on wild trout production since 1983 and under the wild trout regulation (two trout possession limit) since 1998.

5. Camas Creek

The Camas Creek drainage includes Mud Lake, Beaver and Camas creeks as important waters. Good populations of wild rainbow trout and brook trout exist in most streams in the headwater areas. Brown trout fingerling releases have provided a limited fishery for larger trout in Camas Creek. Water conditions limit trout populations in the lower ends of these streams. Native cutthroat trout are found in minor numbers in headwater areas. Little comprehensive angler use and harvest information is available on streams in the Camas Creek drainage. Creel surveys have shown catch rates averaging 0.86 trout/hour and ranging up to 1.8 trout/hour in some tributaries.

Mud Lake originally contained large numbers of cutthroat trout. Presently, it supports a warmwater fishery with yellow perch, largemouth bass, brown bullhead and tiger muskie. Nongame fish are still abundant with Utah chubs and Utah suckers the major species. The lake supports a few hatchery rainbow trout, which move down out of Camas Creek, but the high summer temperatures, fluctuating water levels and low winter dissolved oxygen have greatly decreased the suitability for trout.

In 1988, introductions of tiger muskie were made into Mud Lake to create a trophy fishery while utilizing the nongame biomass available in the lake. Tiger muskies

are sterile hybrids of northern pike and muskellunge, and will be managed through fingerling releases every three years. Bluegill were introduced from 1983-1985. No population has developed. From 1987-1989 black crappie introductions were made into Mud Lake to try to create a self-sustaining population. This effort was also unsuccessful.

Mud Lake has lacked a coldwater fishery since water management changes in the early 1960s impacted Camas Creek and Mud Lake water quality. Experimental introductions of Lahontan cutthroat trout began in 1990 to evaluate this subspecies potential under existing high alkalinity and temperature conditions. Since introduction, Lahontan cutthroat trout have provided a limited, but consistent fishery, primarily during the winter ice season. Stocking of Lahontan cutthroat trout will continue.

B. Objectives and Programs

1. Objective: Improve angling quality in Antelope Creek and upper Big Lost River drainage.

   Program: Continue stocking of Snake River Yellowstone cutthroat trout, monitor and evaluate for success.

2. Objective: Improve water quality conditions in Mud Lake by maintaining higher year-round pool levels to provide for stable game fish populations and improved year-round fishing opportunity.

   Program: Work with irrigation storage space-holders and private fishing organizations to facilitate enhanced winter lake volumes.

3. Objective: Continue to provide for balanced quality and general harvest oriented stream fishing opportunity.

   Program: Continue wild trout management for Medicine Lodge Creek drainage to protect isolated cutthroat trout populations and maintain wild trout fishing opportunity.

   Program: Continue to manage Camas Creek drainage and Birch Creek under general regulations for consumptive fishing opportunity.

   Program: Evaluate the adequacy of current fishing regulations and management direction for the Big Lost River fishery below Mackay Reservoir to satisfy public angling desires.

DRAINAGE: Sinks - Big and Little Lost rivers, Birch, Medicine Lodge and Camas creeks

Water	Miles/acres	Fishery			Management Direction
		Type	Species present	Management	
Big Lost River within Idaho National Engineering and Environmental Laboratory (INEEL) property	5/	Coldwater	Rainbow trout Brook trout Whitefish	Closed	All access and fishing closed by INEEL. System seasonally de-watered.
INEEL boundary to Moore Diversion	22/	Coldwater	Rainbow trout Brook trout Whitefish	General	System de-watered in short water years. Good fishery potential during sustained wet years.
Moore Diversion to Mackay Dam	20/	Coldwater	Rainbow trout Brook trout Whitefish	General	Maintain wild trout populations. Supplement with catchable rainbow trout in areas of high effort to maintain catch rates of 1.0 fish/hr. Evaluate returns of catchable rainbow trout. Winter whitefish and winter no-harvest rainbow trout season.
Mackay Reservoir	/1,000	Coldwater	Rainbow trout Kokanee	General	Put-and-take fishery for rainbow trout. Manage for catch rate of 0.6 fish/hr.
Mackay Reservoir to Chilly Bridge	15/	Coldwater	Rainbow trout Brook trout	General	Seasonally de-watered through diversions and natural sinks. Winter whitefish and winter no-harvest rainbow trout season.
Chilly Bridge upstream to West Fork	45/	Coldwater	Rainbow trout Brook trout Whitefish	General	Catch rates of 1.0 fish/hr. Winter whitefish and winter no-harvest rainbow trout season.
Tributaries: including North Fork, West Fork, Upper East Fork, Wildhorse, and Summit creeks	232/	Coldwater	Rainbow trout Brook trout Whitefish	General	Maintain wild trout populations to produce catch rates of 1.0 fish/hr. Use supplemental put-and-take stocking in areas of high use. Evaluate success of cutthroat trout supplementation. Winter whitefish and winter no-harvest rainbow trout season.
Little Lost River and tributaries	110/	Coldwater	Rainbow trout Bull trout Brook trout	Wild trout Conservation General	Maintain wild trout populations to provide catch rates of 1.0 fish/hr. Manage bull trout population under statewide no-harvest regulation. Encourage brook trout harvest.
Birch Creek and tributaries	32/	Coldwater	Rainbow trout Brook trout	General	Put-and-take rainbow trout fishery to supplement wild trout populations. Maintain catch rates of 1.0 fish/hr.

Medicine Lodge Creek and tributaries	64/	Coldwater	Rainbow trout Brook trout Cutthroat trout	Wild trout General Quality	Maintain populations of wild trout. Upper Snake restricted harvest for cutthroat trout. Maintain catch rates of 1.0 fish/hr.
Mud Lake	/7,000	Mixed	Yellow perch Largemouth bass Tiger muskie Lahontan cutthroat trout	General	Provide warmwater fishery primarily supported by perch. Stock Lahontan cutthroat trout for viable coldwater fishery. Stock tiger muskies every three years to provide trophy fishery.
Camas Creek from Mud Lake to Camas National Wildlife Refuge	4.5/	Coldwater	Lahontan cutthroat trout	General	Put-and-take fishery to provide spring catch rates of 0.5 fish/hr.
Camas National Wildlife Refuge (Camas Creek and ponds)	9/600	Warmwater	Yellow perch Largemouth bass	Closed	Closed for waterfowl sanctuary. Evaluate fishery in refuge waters and develop plan to allow limited angler entry.
Remainder of Camas Creek and tributaries	70/	Coldwater	Rainbow trout Brook trout Brown trout	General General	Maintain present wild trout populations to provide catch rates of 1.0 fish/hr.
Beaver Creek from mouth to Spencer	22/	Coldwater	Rainbow trout Brook trout Cutthroat trout	General Quality	De-watered seasonally.
Beaver Creek and tributaries above Spencer	18/	Coldwater	Rainbow trout Brook trout Cutthroat trout	General Quality	Provide catch rates of 0.6 fish/hr. Supplement with catchable rainbow trout stocking in areas of high use.
Alpine Lakes	/290	Coldwater	Rainbow trout Cutthroat trout Brook trout Golden trout Grayling	General	Maintain present fishery by use of hatchery fry where needed. Expand use of golden trout and grayling to meet public demand in suitable lakes. Identify lakes to receive golden trout. These lakes should receive no supplemental stocking with alternate species. Adjust stocking rates and frequency to correspond to lake size, productivity, natural production and public use.